

**WHAT IS CLAIMED IS:**

1. A back pressure valve, comprising:
  - (a) a first housing including a first chamber formed therein having an inlet and an outlet for a first fluid;
  - (b) a second housing including a second chamber formed therein;
  - (c) a flexible diaphragm having an outer peripheral edge portion abutting the second housing; and closing off the second chamber;
  - (d) a back pressure member moveably disposed in the first chamber of the first housing, wherein the first chamber is defined by the first housing and the back pressure member;  
wherein the flexible diaphragm is fixed onto and moveable together with the back pressure member, whereby pressure in the second chamber determines fluid pressure required to maintain the back pressure member in a steady position.
2. A back pressure valve as claimed in claim 1, wherein the back pressure member is moveable to a closed position in which the back pressure member seals off the passage between the fluid inlet from the fluid outlet.
3. A back pressure valve as claimed in claim 1 or 2, wherein the second housing includes at least one port for supply of a second fluid to the second chamber to set the pressure in the second chamber and thereby determine said preset pressure required to maintain the back pressure member in the steady position.
4. A back pressure valve as claimed in claim 3, wherein the first housing defines a bore, wherein the fluid inlet and the fluid outlet open into the bore, and wherein the back pressure member is slidably mounted in the bore for movement within the bore.

5. A back pressure valve as claimed in claim 4, which further comprises a sleeve member disposed within the first housing and providing said bore for the back pressure member, the sleeve member being fixed onto the first housing and having an opening that is closed by the back pressure member in the closed position and that permits the fluid to flow from the fluid inlet to the fluid outlet when the back pressure member is in the open position.

6. A back pressure valve as claimed in claim 5, further comprising a holding means attached to the flexible diaphragm and holding the back pressure member to the diaphragm, whereby the back pressure member and the diaphragm are moveable together.

7. A back pressure valve as claimed in claim 5, wherein the second housing accommodates pressure controlling devices therein.

8. A back pressure valve as claimed in claim 5, wherein the second housing is provided with pressure adjusting mechanism to adjust the pressure in the second chamber.